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10/830,091

04/23/2004

Akihiko Shiho

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EXAMINER

DO, AN H

ART UNIT

PAPER NUMBER

2853

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

01/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/830,091

Applicant(s)

SHIHO ET AL.

Examiner

An H. Do

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 9, 11-14 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Amendment filed on 13 November 2006 has been acknowledged.

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 8, 9, 11 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugahara (US 5,933,169).

Sugahara discloses in Figures 1-5 the following claimed limitations:

Regarding claim 8, a liquid supplying member (Figure 3, elements 2, 3 and 41), for supplying liquid from a liquid container (22) to a liquid ejection head (31) which are provided in a liquid ejection apparatus (Figure 3), the liquid supplying member comprising: a plurality of elastic members (each individual ink chamber 12), each of which is elongated in a first direction so as to have a first face (top surface) and a second face (bottom surface), the elastic members (12) being arrayed in a second direction perpendicular to the first direction; a first film member (3), joined to the first

face (top surface) of each of the elastic members (Figure 1); and a second film member (41), joined to the second face (bottom surface) of each of the elastic members (Figure 3), such that a passage (ink chamber 12), through which the liquid is supplied from the liquid container (22) to the liquid ejection head (31), extending in the first direction is hermetically defined between the adjacent elastic members by inner faces of the first film member and the second film member.

Regarding claim 9, wherein at least one of the elastic members (12) is formed with a recessed portion (15) such that a width of the passage is enlarged thereat (Figure 3).

Regarding claim 11, wherein each of the elastic members is comprised of elastomer (Figure 2).

Regarding claim 34, in which the liquid supplying member (Figure 3, elements 2, 3 and 41) extended from the liquid container (22) to the liquid ejection head (31).

Regarding claim 35, wherein the liquid supplying member (Figure 3, elements 2, 3 and 41) is flexed such that either the first film member or the second film member faces inwards (Figure 2).

Regarding claim 36, wherein: the elastic member is formed with a recessed portion (15) such that a width of the passage is enlarged thereat (Figure 3); and the recessed portion (15) is situated closer to the liquid ejection head (31) than the liquid container (22).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugahara (US 5,933,169) in view of Umezawa (US 5,025,270).

Sugahara discloses the claimed invention except for reciting the following features:

Regarding claim 12, wherein each of the first film member and the second film member is heat welded to the elastic members.

Regarding claim 13, wherein a connector having a higher rigidity than the elastic members, and having an opening communicated with the passage is provided at each end of the elastic members.

Regarding claim 14, wherein each of the first film member and the second film member has flexibility.

Umezawa teaches the following claimed features:

Regarding claim 12, wherein each of the first film member and the second film member (5) is heat welded to the elastic members (column 2, lines 39-40).

Regarding claim 13, wherein a connector (7a) having a higher rigidity than the elastic members, and having an opening communicated with the passage is provided at each end of the elastic members (column 2, lines 63-68).

Regarding claim 14, wherein each of the first film member and the second film member has flexibility (column 2, lines 50-56).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have each of the first film member and the second film member is heat welded to the elastic members and has flexibility; and a connector having a higher rigidity than the elastic members, and having an opening communicated with the passage is provided at each end of the elastic members, as taught by Umezawa into Sugahara, for the purpose of providing a compact and highly reliable ink jet recording apparatus.

Allowable Subject Matter

6. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 10 is the inclusion of the limitation of a liquid supplying member that includes the first and second film members, each of the first film member and the second film member comprises an inner layer having a first permeability for gas and water, and an outer layer having a second permeability for gas and water which is less than the first permeability. It is this limitation found in the claims, as it is claimed in the combination of, that has not been found, taught or

Art Unit: 2853

suggested by the prior art of record which makes these claims allowable over the prior art.

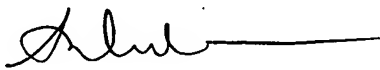
Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD
January 17, 2007


An H. Do
Primary Examiner
Art Unit 2853